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Table I. Our results on the various surface modifications of elastomers.

Static Diffusion Test Results (conducted at GeoMet Inc., MD)

O27-076-01   Butyl	}	Sample Identification	Туре	Run#	Observed
027-076-01   Butyl   Control   IID Run #1					Bodpoint
027-076-01   Butyl   Control   IID Run #1			HD SAMPLES	- <u></u> l	(min)
027-076-01   Butyl   Control   IID Run 91   027-076-02   Butyl, Diesel Exposed   Control   IID Run 91   027-076-03   Natural   Control   IID Run 92   027-076-03   Natural   Control   IID Run 92   027-076-03   Natural   Control   IID Run 92   027-076-04   Neoptene   Control   IID Run 92   027-076-05   Nitrile   Control   IID Run 92   027-076-06   Silicone   Control   IID Run 92   027-076-14   Natural   FC Control   IID Run 92   027-076-14   Natural   FC Control   IID Run 92   027-076-14   Natural   FC Control   IID Run 92   027-076-15   Neoptene   FC Control   IID Run 92   027-076-16   Nitrile   FC Control   IID Run 92   027-076-16   Nitrile   FC Control   IID Run 92   027-076-16   Nitrile   FC Control   IID Run 91   027-076-16   Nitrile   FC Control   IID Run 91   027-076-16   Nitrile   FC Control   IID Run 91   027-076-16   Nitrile   FC				UD Run #1	565
Control   Baryl   Control   IID Run #1			Control		595
Control   Butyl, Diesel Exposed   Control   ID Run #1			Control		625
OZT-076-021   Buryl, Driesel Exposed   Control   IID Run #1			Control		295
027-076-03   Natural   Control   IID Run #2		Butyl, Diesel Exposed			250
COLORD   CONTROL   CONTR				IID Run #1	385
Control   Cont				IID Run #2	185
Control   ID Num #2   Control   ID Num #3   Control   ID Num #3					170
O27-076-04   Neoptree   Control   ID Run #2					170
1027-076-04   Neaptenc   Control   IID Run #2					180
1027-076-05   Nitrile					130
1027-076-05   Nitrile					1,50
O27-076-05   Nitrile					120
C27-076-06   Silicone   Control   IID Run #2					125
C27-076-06   Silicone					120
CONTROL   CONT					< 5
Matural   Natural   Natu					< 5
OZT-076-14   Natural   FC Coated   IID Run #2					< 5
CC-016-14   Natural   FC Conted   IID Run #2					305
					> 2410
					> 2410
O27-076-15					400
C27-076-16					290
O27-076-16   Nitrile	027-076-16			11D KVD #2	290
027-076-16   Nitrile   FC Coated   IID Run #2	027-076-16				230
O27-076-17   Silicone   FC Coated   IID Run #2	027-076-16	Nitrile			260
OZ7-076-17   Silicone   FC Coated   IID Run #2		Silicone			2190
O27-076-17   Silicone   FC Costed   IID Run #2					55 45
RF Plasma Treated   IID Run #1					55
1027-076-08   1027-076-09   1027-076-09   1027-076-09   1027-076-09   1027-076-09   1027-076-09   1027-076-09   1027-076-09   1027-076-09   1027-076-09   1027-076-09   1027-076-09   1027-076-12   1027-076-12   1027-076-12   1027-076-12   1027-076-12   1027-076-12   1027-076-12   1027-076-12   1027-076-12   1027-076-13   1027-076-13   1027-076-13   1027-076-13   1027-076-13   1027-076-13   1027-076-13   1027-076-13   1027-076-13   1027-076-13   1027-076-13   1027-076-13   1027-076-10					870
Description					765
Description			RF Plasma Treated	IID Run #1	555
Description	027-076-09		PVA Costed	ID Run#1	1985
Description	027-076-09				1870
Description			PVA Costed		1590
December   December		Butyl, *Adjacent to IID leak	FC Costed		555
December   December				UD Run #1	375
Description				IID Run #1	1590
Description					<u>₽</u> 70
Description					840
Description					760
Description					975
10 Run #1   10 R					500
10 km #1   10 km #1					> 2410
					850
CB SAMPLES   Control   CB Run #1   235					385
27-076-07         Viton         Control         G8 Run #1         235           27-076-07         Viton         Control         G8 Run #1         235           27-076-07         Viton         Control         G8 Run #1         235           27-076-18         Viton         FC Costed         G8 Run #1         235           27-076-18         Viton         FC Costed         GB Run #1         235           27-076-18         Viton         FC Costed         GB Run #1         235           27-076-19         Viton         FC Costed         GB Run #1         235           27-076-19         Viton         PVA Coated         GB Run #1         235	v.v . <u>.</u>			IID Run #1	365
27-076-07   Viton   Control   GB Run #1   235	27-076-07	Vitop		1005	
27-076-07   Viton   Control   GB Run #1   235		<del>1</del>			
27-076-18					235
27-076-18         Viton         FC Coated         GB Run #1         235           27-076-18         Viton         FC Coated         GB Run #1         235           27-076-19         Viton         FC Coated         GB Run #1         235           27-076-19         Viton         PVA Coated         GB Run #1         825					235
27-076-18 Viten FC Coated GB Run #1 235 27-076-19 Vitea PVA Coated GB Run #1 235					
27-076-19 Viton PVA Coated GB Run #1 235	27-076-18				
07 07 00 10 10 10 10 10 10 10 10 10 10 10 10					
77-076-19 Viton PVA Coated Gib Run #) 415	27-076-19	Viton			
27-076-19 Viton PVA Coated Gl3 Run #1 415 27-076-19 Viton PVA Coated Gl3 Run #1 306					

PC = fluorocarbon; PVA = polyvinyl alcohol; SARC = silicone abrasion resistant coating. All PVA, SARC and FC coated samples were post treated with RF plasma (air = 100-200 mTorr), medium power, 30 minutes.

Diesel Exposure = Diesel fuel applied with Q-tip. Samples stay in hood 10 minutes. Samples blotted dry and tested immediately.

PAGE 11/11 \* RCVD AT 4/1/2005 12:17:33 PM [Eastern Standard Time] \* SVR:USPTO-EFXRF-1/26 \* DNIS:2738300 \* CSID:617 526 5000 \* DURATION (mm-ss):03-28

<sup>• =</sup> In IID Run #1, some coated samples were difficult to keep scaled, due to the "slickness" of the coating. Sample ID "027-076-12" had an IID leak around the outside of the sample, generating an artificially shortened endpoint time for this sample and for the adjacent sample.

<sup>\*\* =</sup> In IID Run #1, the diesel fuel "are" the wax scal from around the fest washer. This resulted in some samples leaking IID around the outside of the sample, generating an artificially shortened endpoint time for the samples and for some adjacent samples (Adj. = Adjacent to leaking samples; L = Leaking sample).